Cover Page

Project Title: Community Air Quality Testing Around North America's Largest Inland Port

Applicant Information:

- Applicant Organization: Warehouse Worker Justice Center, dba Warehouse Workers for Justice
- Address: 37 S. Ashland Avenue, Chicago IL 60607
- Contact (name, phone, email): Elizabeth Foster, 567-203-9954, elizabeth@warehouseworker.org
- DUNS number: 079435394

Set-aside: None

Brief description of applicant organization: Warehouse Worker Justice Center, dba Warehouse Workers for Justice, is a 501(c)3 nonprofit seeking to transform the warehousing and distribution industry around North America's largest inland port in Will County, IL. As part of our mission, we are working towards environmental justice and family-supporting jobs for communities around warehousing developments, which generate high levels of diesel pollution and other industrial pollutants.

Project partner(s): Lewis University, Community Cultivation Project

Project Location: Will County, Illinois, USA. Zip codes will include 60421, 60432, 60433, 60435, and 60436.

Air pollutant scope: PM2.5

Budget summary:

EPA Funding Requested	Total Project Cost
$457,169.81	**$457,169.81**

Project period: 2 years

1-3 sentence short project description: In partnership with Lewis University, Warehouse Workers for Justice will conduct community-organized air quality testing in areas with high levels of air pollution in Will County, IL. The project will generate the first detailed data on air pollution in low-income, majority-minority neighborhoods near the United States' largest inland port, and will engage community members in planning and decisionmaking around local air quality.

Workplan

Section 1: Project Summary and Approach

A. Overall Project (20 points)

Consistent with the scope of work defined in Section 1B of the RFA, Warehouse Workers for Justice proposes to conduct community-led air quality monitoring in low-income communities of color around North America's largest inland port in Will County, IL. Black and Latinx residents in these communities experience a disproportionate burden of adverse health outcomes stemming from air pollution around the port. In alignment with environmental justice goals (further explained in Section 3), this project will engage individuals and community groups in the design and leadership of an air quality testing project in their own neighborhoods.

This project will develop and leverage community air quality monitoring expertise, while also benefiting from the existing technical expertise of project partners at Lewis University. By engaging residents in air quality monitoring, data analysis, and advocacy, the project will empower community members and groups to participate in air monitoring and decision-making processes relevant to local air quality, while building trust and understanding among community groups in support of environmental justice goals.

Building on existing staff expertise in supporting community-led air quality monitoring (see Section 5C), the program will begin with 6 weeks of proactively seeking community input on air monitor locations from low-income, predominantly Black and Latinx communities in the project area. Through individual and small-group meetings, WWJ staff will seek input on sites of greatest concern (e.g., locations near schools) or areas where residents experience high levels of pollution-related health impacts but no monitoring devices currently exist. WWJ will then place 20 commercially available air quality monitors in locations determined with community input in order to build capacity and knowledge of local-scale air quality in low-income, majority-BIPOC communities in the project area. Because of our experience from a pilot project, our air quality testing will focus on pm2.5, as this is a common pollutant in diesel exhaust, as well as in emissions from refineries and other heavy industry in the area, which can lead to or exacerbate respiratory and cardiovascular illness.

During this public engagement period to determine where the air quality monitors will be placed, the air quality monitors will undergo initial testing and validation. As many monitors as possible will be collocated at or near the existing EPA pm2.5 monitor in Joliet while the remaining monitors will be collocated with each other elsewhere and rotated through the collocation site. This preliminary testing will allow for identification of faulty units and the determination of intra-unit variability. We plan to keep one monitor located near the EPA sensor throughout the project as a control to monitor long-term performance.

Following placement of air quality monitors, WWJ staff will commence an outreach campaign focusing on door-knocking and community meetings to build understanding of the monitoring process and engagement in the process. WWJ also plans to develop a website as a dedicated

resource for the campaign and a public repository of information for community members as the campaign progresses. As a community group, WWJ has deep relationships in the community and is a trusted resource for community members. WWJ also plans to contract with the Community Cultivation Project, a local organization led by directly-impacted community members in Joliet, to strengthen our community outreach, as described in Section 2. In order to ensure adequate attention to this work, WWJ has requested funding for a full staff position to focus primarily on community outreach/engagement around air quality monitoring.

Continuously throughout the project, and in a final analysis after 2 years of data collection, our partners at Lewis University will assist with installation and testing of the monitors and data collection, participate in some community engagement activities, build data analysis tools, and conduct the data review and analysis. Based on input from community members throughout the engagement process, research personnel at Lewis University will work with WWJ to produce explanatory materials in English and Spanish that highlight key findings and address areas of concern. This information will improve understanding of local-level air quality in underserved communities in Joliet and form a basis for policymaking to address the disparate impacts of air pollution in these communities.

B. Project Significance (10 points)

This project will benefit disparately impacted communities and the public at large by providing local-level data on the scale of air pollution in overburdened communities where little air quality monitoring currently exists. The only existing EPA monitor in Joliet is located on the west side of the city, in a predominantly white and relatively affluent neighborhood that does not experience a high burden of truck traffic or other industrial air pollution. As indicated in Section 3, this project focuses on Black and Latinx communities disproportionately exposed to air pollution from diesel exhaust and industrial activity. In preliminary air quality monitoring conducted over the summer of 2021, WWJ and Lewis University students & faculty found that air quality around the port was significantly poorer than existing EPA data would suggest. Obtaining and analyzing data from areas with the greatest burden of air pollution is essential to developing environmental justice solutions that support the health of all residents.

This project addresses the seriousness and extent of the linked environmental and public health problems by dedicating appropriate resources and time to (a) building community support for and understanding of air quality monitoring, (b) engaging historically marginalized residents in the monitoring process, and (c) generating data that inform appropriate solutions.

Section 2: Community Involvement

A. Community Partnerships (15 points)

As a trusted community resource, WWJ plans to partner with other community groups to design, participate in, and evaluate the project. Community partners will assist with outreach to a broader range of individuals and institutions. Specifically, WWJ will partner with the Community Cultivation Project to conduct outreach to Black churches and faith groups, as well as other community groups and social service agencies in Joliet. We also plan to work with the Boys and Girls Club of Joliet to host an outreach event focused on families with young children. At the

event, children will participate in air monitoring and learning about air pollution in an age-appropriate way, while parents will learn more about the air testing project and opportunities for engagement.

WWJ also plans to partner with Lewis University to lead the data analysis and reporting. Dr. Joseph Kozminski and undergraduate and graduate students from his program will participate in many aspects of the project, especially during initial set up and testing, data monitoring, and providing expert analysis of air quality data during the project. After approximately 2 years of continuous monitoring, Dr. Kozminski and his colleagues will conduct a final analysis and assist in producing community education documents that lay out key findings in an accessible format. To address the language barriers described in Section 3, these materials will be produced in both English and Spanish. WWJ has previously worked with Dr. Kozminski on a successful community air quality monitoring project around the port in Will County. Dr. Kozminski and some of his students provided expert data cleanup and analysis of air quality data collected by community volunteers, and Dr. Kozminski was the lead data analyst for WWJ's forthcoming air quality report based on the data gathered during that project.

B. Community Engagement (10 points)

A primary goal of this project is to ensure meaningful participation of people and communities historically overburdened by air pollution, pollution-related health impacts, and barriers to participation in decision-making processes, as detailed in Section 3. To that end, WWJ will prioritize community engagement at every step of the project, including:

- Person-to-person bilingual community outreach. Many members of marginalized communities do not have high-speed internet access at home, are not comfortable interacting online, and have inconsistent cell phone service from prepaid phone plans. To reach these residents, it is essential to conduct in-person outreach. WWJ plans to conduct door-knocking and in-person outreach at community events throughout the project period, in both English and Spanish.
- For residents who are comfortable with smartphone technology, our flyers will include QR codes that can be scanned to see real-time data from nearby air monitors.
- WWJ and Lewis University partners will reach out to local school districts and after-school programs to engage students and parents. As possible, we will send staff members and community leaders to local high schools and community college classrooms as guest speakers to engage youth organizers in the air quality project.
- Lewis University partners will also host on-campus outreach events for students, faculty, and staff, many of whom live in impacted communities, to learn more about local air quality and related public health and climate impacts.
- WWJ will engage community members with existing ties to the organization or project to host house/neighborhood meetings or meetings at churches and community centers.
- To supplement ongoing outreach, WWJ will host community listening sessions to hear from residents about how collected air quality data resonate with their lived experience.
- WWJ organizers will use community events and listening sessions to identify community members who have interest in participating in personal storytelling about the impacts of

air pollution in the Will County area. WWJ will then compile a storybank to highlight qualitative data about how local air quality impacts the lives of residents.

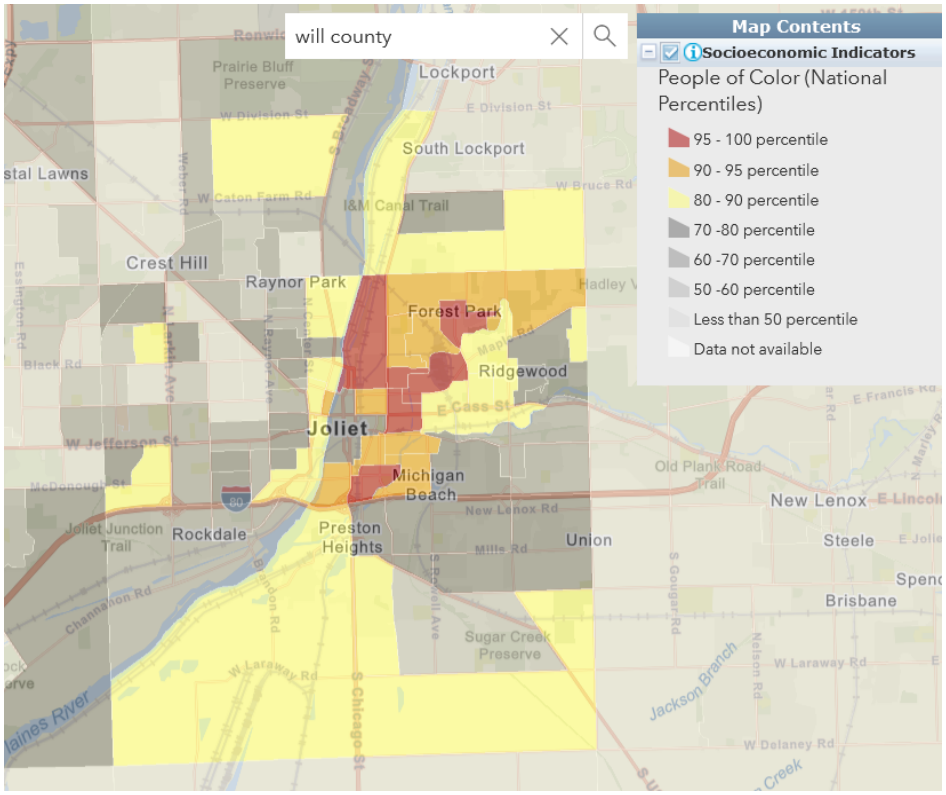
Feedback and participation from community members will strongly factor into determining the placement of air quality monitors at the beginning of the project period, the direction of continuing outreach during the monitoring project period, and the focus of data analysis at the end of the project period. As noted above, the existing EPA monitor in Joliet does not produce data representative of air quality in underserved communities; by prioritizing these communities' concerns, WWJ aims to establish a more representative sample. Community input will be supplemented by available information about census tracts with high social vulnerability to determine the final locations of the air monitors.

C. CBO Set-aside

n/a

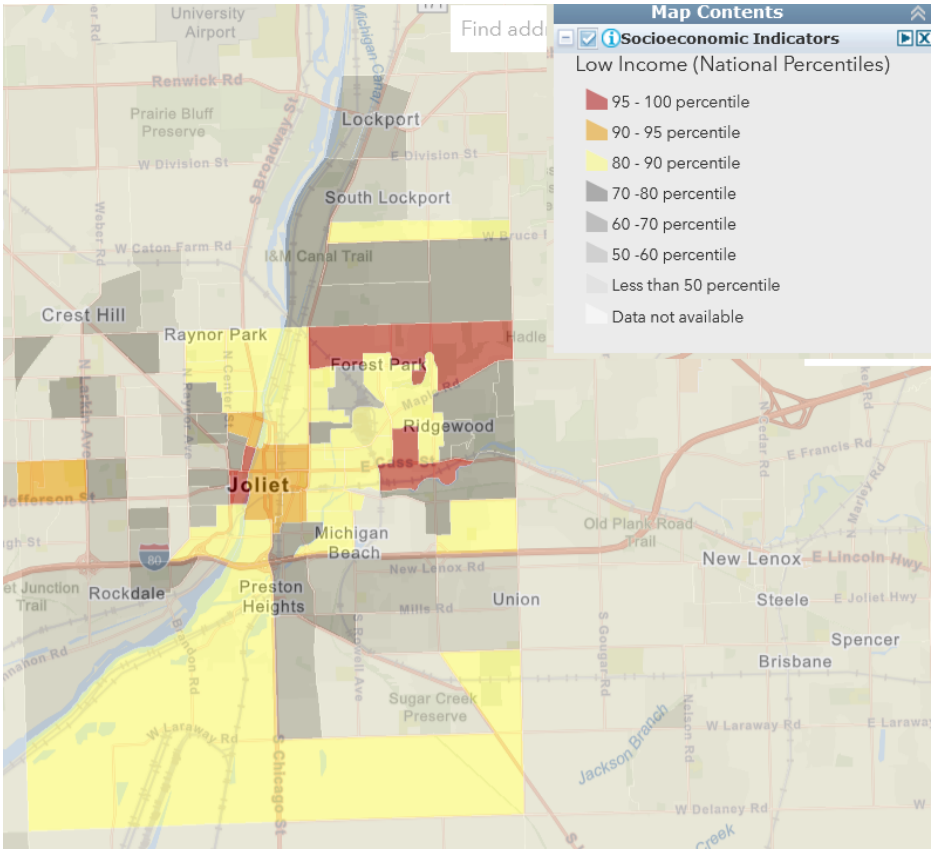
Section 3: Environmental Justice and Underserved Communities

This project promotes environmental justice, as described in Section I.C.3. of the RFA, by addressing the disproportionate health impacts of air pollution on low-income communities of color who have experienced a lack of resources for measuring and addressing dangerous pollutants in their communities. The only EPA air monitor in Joliet is located in a majority-white, affluent neighborhood and does not accurately measure the exposure of Black and Latinx residents or low-wage workers to harmful pollutants. PurpleAir also gathers data from many monitors across Chicago but very few in Will County or Joliet. To address impacts of air pollution on impacted communities, the project promotes the meaningful involvement of low-wage Black and Latinx community members, who have historically been excluded from development and implementation of environmental laws and policies, in community air quality testing and engagement in decision-making around air quality.

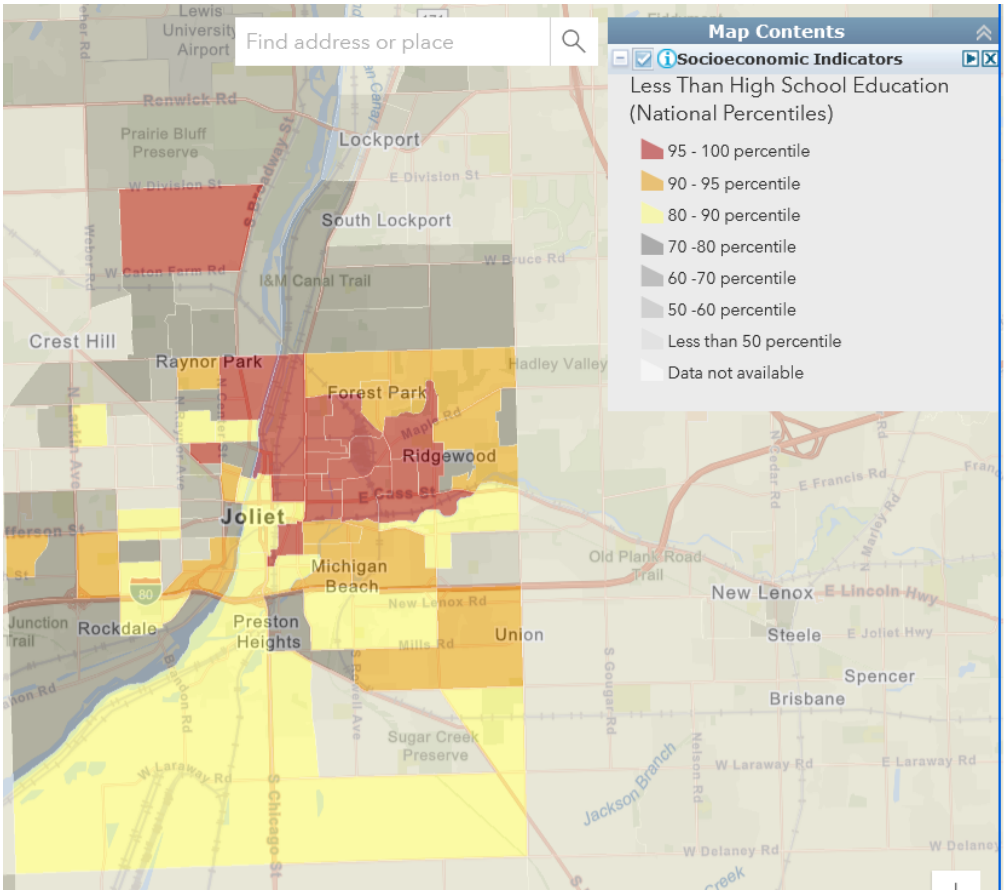


Low-income communities of color in Will County
This project will take place around the United States' largest inland port, located in Will County, IL. Specifically, we will focus on air quality testing in Joliet, the county seat, and a few communities along transit and supply chain corridors surrounding Joliet, such as Bolingbrook and Fairmont. According to EJScreen, the majority of Joliet outside the downtown core is above the 80th percentile for people of color nationally, with several areas reaching the 95-100th percentile. Much of Bolingbrook is also in the 80th percentile, particularly along I-55 where the warehousing developments are clustered.

Per EJScreen data, low-wage workers, people of color, and people with less than a high school education are concentrated in the same and adjacent areas



The health impact of air pollution in Joliet disproportionately harms low-income communities of color with low educational attainment.



Disproportionate health impacts on low-income communities of color in Will County
Semi truck traffic around the port generates high levels of air pollution, and working-class Black and Latinx neighborhoods are disproportionately exposed to truck traffic and diesel pollution. This reflects a national pattern of warehouse employers locating warehouses in low-income, primarily Black and Latinx communities, bringing pollution and truck traffic. For example, in a recent Consumer Reports investigation from December 2021 that tackled Amazon's unprecedented and unfettered expansion, data showed that Amazon opens most of its warehouses in neighborhoods that have disproportionately high numbers of people of color and low-income residents relative to their metro area. Nationally, 69% of Amazon warehouses have more people of color living within a one mile radius than the median neighborhood in their metro areas. Many of these are communities where other industrial facilities already cause residents to worry about poor air quality, excessive noise, and traffic. 57% of Amazon warehouses are in neighborhoods with a greater share of low-income residents than typical for the overall metro area.

In a truck counting project held during the summer of 2021, WWJ staff regularly counted over 1,000 diesel trucks in 2 hours at a single intersection close to a predominantly Black and Latinx residential area (Preston Heights, a neighborhood where 74% of residents identify as Black,

Hispanic, or mixed-race.[1]) Members of Black and Latinx communities also experience greater barriers to participate in decision-making processes, due to language barriers, nontraditional work hours/inability to take time off to attend public meetings, and unfamiliarity with virtual meeting platforms. When members of these communities do attend public meetings and express concerns about air quality and new warehousing developments, public officials have not been receptive to their comments. For example, elected officials in Joliet have overwhelmingly supported a massive new warehousing development and intermodal expansion adjacent to the existing port, without addressing widespread community concerns about increased truck traffic and resulting air pollution.

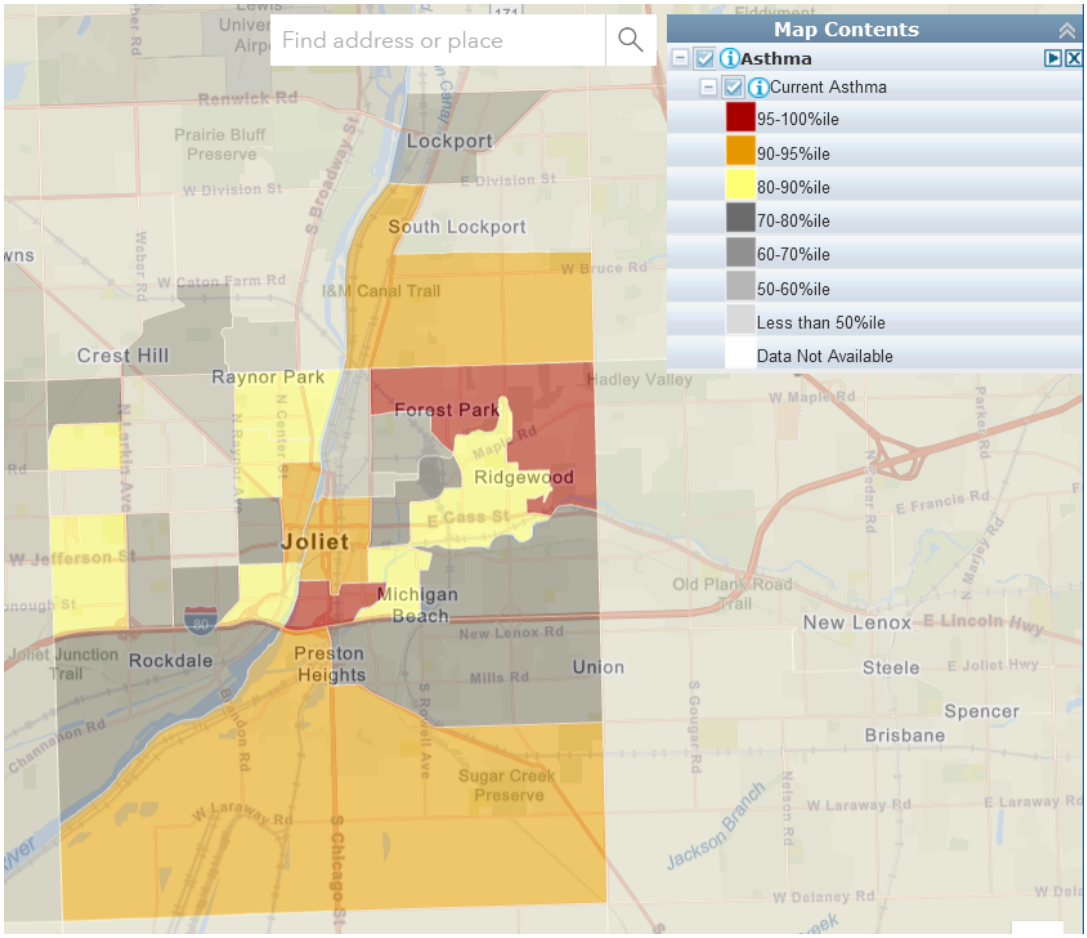
County Statistics: Will County

Annual Projected Impacts in 2023: Health		
Deaths	24	# of deaths
Heart Attacks	13	# of heart attacks
Acute Bronchitis	17	# of cases
Upper Respiratory Symptoms	317	# of cases
Lower Respiratory Symptoms	222	# of cases
Emergency Room Visits, Asthma	9	# of visits
Asthma Exacerbation	339	# of cases
Lifetime Cancer Risk Per Million	293	# of cases per million people

The result is a disproportionate impact of air pollution on low-income communities of color. According to research conducted by the Clean Air Task Force, Will County is in the 98th percentile for diesel adverse impacts in the United States; transitioning away from diesel is projected to save over $268,550,872 in health costs in the County. In 2023 alone, diesel pollution is projected to measurably increase the risk of health conditions ranging from heart attacks to respiratory symptoms to lifetime cancer risk.

Confirming the impact of diesel pollution on residents' respiratory health, EJScreen data show that Joliet and the surrounding communities have much higher rates of asthma than the national average, with almost the entire region over the 70th percentile and more than half over the 80th percentile for current asthma.

[1] "Census Profile: Preston Heights, IL." *Census Reporter*, United States Census Bureau, 2019, https://censusreporter.org/profiles/16000US1761860-preston-heights-il/.



In addition to diesel pollution, Joliet residents also bear the burden of air pollution from a nearby ExxonMobil oil refinery. Oil refineries emit large amounts of toxic chemicals and pollutants including sulfur oxides, nitrogen oxides, particulate matter VOCs, ammonia, carbon monoxide, hydrogen sulfide, and trace metals[2], compounding with other existing pollution burdens and causing cumulative impact on surrounding communities.

Impact of COVID-19

Low-wage workers, particularly Black and Latinx workers, have also been disproportionately impacted by COVID-19, due to multiple factors including poorer baseline health, greater prevalence of pre-existing conditions, and greater likelihood of working in jobs that require in-person attendance and increase the risk of COVID-19 transmission at work. Among low-wage workers in Will County specifically, in a survey conducted by WWJ in December of 2020, 90% of low-wage food chain workers identified as either non-Hispanic Black or Hispanic/Latinx, and 49% stated that they had no health insurance coverage at all, highlighting the overlap of racial segregation into low-wage jobs and limited access to healthcare.

[2] Festus M.Adebiyi, "Air quality and management in petroleum refining industry: A review," Environmental Chemistry and Ecotoxicology, Volume 4, 2022, Pages 89-96

Environmental Justice in Will County

Disproportionate exposure to air pollution and barriers to participation in decision-making processes have given rise to a chronic burden of asthma and other respiratory diseases among low-wage Black and Latinx residents of Will County. To address this problem and promote environmental justice in this population, WWJ plans to (a) conduct community air quality testing directly in the most-affected areas, where there is a lack of testing and data; (b) involve community members in the air testing process to build community awareness of air pollution as a public health problem and involvement in developing solutions; (c) support community members in accessing decision-making processes, e.g. by providing support with technology for virtual meetings; (d) support most-impacted community members in seeking air quality protections from their political representatives.

Section 4: Environmental Results

A. Outputs and Outcomes

As described in section I.C.2 and 3 of the RFA, the outputs of this project will be:

- Data about air quality in low-income, historically marginalized communities with the highest burden of air pollution and associated disease.
- Community meetings
- Residents engaged through outreach education

The main outcomes of this project will be:

- Greater community understanding of air quality concerns, based on granular, accurate data about local air quality in low-income, majority-BIPOC census tracts
- Greater community engagement with air quality and willingness to advocate for environmental justice solutions

B. Performance Measures and Plan

The performance measures for this grant will include:

- Number of air monitors placed in census tracts with documented high rates of air pollution and associated health impacts: 20
- Number of community events held in low-income neighborhoods with high rates of air pollution and associated health impacts: 10 meetings; 300 attendees total.
- Number of community members reached through in-person and digital outreach: 5,000

C. Timeline and Milestones

The total project timeline will be 2 years. Milestones will include:

- By **6 weeks** after the start of the grant period: based on community input, determine placement of monitors and set up 20 air quality monitors in environmental justice communities in Joliet and Bolingbrook. A wi-fi hotspot will be placed with each monitor.
- By **8 weeks** after the start of the grant period: begin doorknocking in target census tracts and communities near the air monitors. As detailed in Section 2B, outreach will be fully bilingual and incorporate both electronic and analog components.
- By **4 months** after the start of the grant period: publish a website dedicated to the project featuring information about air quality in Joliet, resources for residents, and preliminary results as they come in.

- **During the first year** of the grant period: host at least 4 community events.
- **During the second year** of the grant period: host at least 6 community events.
- By **2 years** after the start of the grant period: clean up and analyze collected data, disseminate findings in accessible, bilingual materials.

Section 5: Quality Assurance Statement
(does not count towards the 12-page limit and will be submitted as a separate attachment)

Section 6: Programmatic Capability and Past Performance

A. Past Performance

In past fiscal years, WWJ has met performance requirements for federal and state assistance agreements. We have never received a grant from EPA before.

B. Reporting Requirements

WWJ is prepared to meet reporting requirements and in our existing awards, has consistently submitted technical reports that meet the required level of detail and demonstrate acceptable progress towards achieving the outputs and outcomes of the grant program. We have never received a grant from EPA before.

C. Staff Expertise

Programmatic staff assigned to this grant have significant experience designing and implementing community outreach campaigns. Under the direction of our Labor and Environmental Justice Director, Yana Kalmyka, WWJ has successfully completed a pilot air quality testing project over the summer of 2021, with significant community involvement at every step. The data from this project are currently being synthesized into a report, also with extensive community input. Yana will spend approximately 10% of her time on the EPA grant to provide program supervision.

WWJ plans to hire a bilingual Spanish-speaking organizer to lead the community outreach and coordinate with project partners. The organizer will be a lifelong resident of Will County with deep roots in the region. They will bring community expertise and connections to local formal and informal networks

As mentioned above, WWJ's previous successful air quality testing project was done in collaboration with Dr. Joseph Kozminski, the same researcher who will be partnering with WWJ on the current proposal. Dr. Kozminski has a record of success in data analysis and communication of results in a manner accessible to readers at every level of familiarity with air quality testing and the health concerns raised by air pollution.

Administrative and reporting staff have experience managing grants of comparable scope and budget size, satisfying state and federal reporting requirements, and submitting both programmatic and fiscal reports timely and accurately.

Section 7: Budget

Category	Amount
Personnel	
Environmental Justice Organizer @ 100%	104,000
Labor & Environment Director @ 10%	13000
Direct administrative staff time: Development Director @ 5% and Operations and Finance Manager @ 5%	24400
Total WWJ Personnel	141,400
Fringe	
Health Insurance (1 FTE @ $550/mo/FTE)	13200
FICA @ 7.65%	10817.1
Car Allowance (1 FTE @ $400/mo)	9600
Total Fringe	33,617.1
Travel	
Mileage reimbursement for staff travel	4,000
Total travel	4,000
Equipment	
Supplies	
Wifi hotspots	12,500
Monitor maintenance/upkeep	5,000
Air quality monitors (20)	7,500
Total supplies	25,000
Contractual	
Community Cultivation Project @ $3,000/mo	72,000
Total contractual	72,000
Construction	
Other	
Website hosting and development	2,000
Meeting expenses	10,000
Printing & Design	4,000
Subaward to Lewis University	135,951
Total Other	151,951
Total Direct	427,968
Total Indirect	29,201.71
Total Funding	457,169.81